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INTERACTION ANALYSIS--RECENT DEVELOPMENTS.

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MODIFICATION OF FLANDERS' INTERACTION ANALYSIS IS PROPOSED TO ENCOMPASS SOME FEATURES OF RELATED SYSTEMS AND TO PROVIDE A SPECIFIC FEEDBACK TOOL FOR ANALYZING ONE'S OWN TEACHING, FORMULATING QUESTIONS, OBSERVING TEACHING PATTERNS, DIAGNOSING TEACHING PROBLEMS, AND FOR ROLE-PLAYING IN THE COLLEGE CLASSROOM. FLANDERS' 10 CATEGORIES ARE DIVIDED INTO 24. UNDER "TEACHER TALK--INDIRECT INFLUENCE," THERE ARE (1) ACCEPTS FEELING, (2A) PRAISES, (2B) PRAISES USING PUBLIC CRITERIA, (2C) PRAISES USING PRIVATE CRITERIA. THIRD, "ACCEPTS IDEAS" THROUGH (3A) DESCRIPTION, (3B) INFERENCE, (3C) GENERALIZATION. FOURTH, ASKS (4A) COGNITIVE MEMORY QUESTION, (4B) EVALUATIVE QUESTION. UNDER "TEACHER TALK--DIRECT INFLUENCE," THE CATEGORIES ARE (5) LECTURING, (6) GIVING DIRECTIONS, (7A) CRITICIZES, (7B) CRITICIZES USING PUBLIC CRITERIA, (7C) CRITICIZES USING PRIVATE CRITERIA. UNDER "STUDENT TALK," "PUPIL RESPONSE" IS CATEGORIZED AS (8A) DESCRIPTION, (8B) INFERENCE, (8C) GENERALIZATION. "PUPIL INITIATION" IS CHARACTERIZED AS (9A) DESCRIPTION, (9B) INFERENCE, (9C) GENERALIZATION. FINALLY, THERE ARE (10) SILENCE, AND (11) CONFUSION. FLANDERS' ORIGINAL CATEGORIES 1,5 AND 6 AND THE SCORING PROCEDURES ARE UNCHANGED. THE NUMBERS OF THE CATEGORIES CHARACTERIZING ON-GOING CLASSROOM INTERACTION ARE RECORDED IN A COLUMN, AND SUCCESSIVE NUMBER PAIRINGS ARE ENTERED IN A 24 BY 24 MATRIX. (LC)

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INTERACTION ANALYSIS: RECENT DEVELOPMENTS*

by

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There are a number of category systems for analyzing verbal interaction in the classroom, but most often the term Interaction Analysis refers to the system for analyzing classroom verbal behavior which was developed by Ned Flanders; and in this paper Interaction Analysis will designate the Flanders system.

In the past fifteen years, the interest shown in category systems as research tools has increased tremendously. In a recent survey, for example, Amidon and Simon (2) found that educational researchers reported over twenty systems for classifying verbal classroom interaction. I have found that my own students are developing category systems at an alarming rate.

Hough and Amidon (6), Honigman (5), Amidon and Hunter (1), and Simon (8) have developed systems which include many features of the ten category system of Flanders, but which also branch out from and differ somewhat from Interaction Analysis. The first issue of The Classroom Interaction Newsletter (3) presents summaries of a number of studies in which other new category systems have been developed. So many observational systems are now being produced that it is difficult to keep informed about them. While there is a wide field here for innovation and invention, it seems to me that in order to increase our understanding

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of classroom verbal interaction, it is important to conduct careful research with presently existing systems. The modifications of Interaction Analysis which will be suggested here would allow a researcher to compare any data he collected with that collected using the original Flanders system.

In the Flanders system only verbal interaction between teachers and pupils is analyzed because of the difficulty in reliably categorizing non-verbal behavior. All teacher-pupil interaction is divided into ten categories, seven of teacher talk, two of student talk, and one of silence or confusion.

Categories one, two, and three are referred to as indirect teacher influence. Category one is acceptance of feeling; this category contains teacher statements communicating acceptance by the teacher of both positive and negative student feelings. Statements which judge the "goodness" or appropriateness of pupil behavior comprise Category two. These may be either praise or encouragement. Category three, acceptance of ideas, is made up of teacher statements which reflect, summarize, or clarify student ideas. Teacher questions which require children's responses are assigned to Category four.

Categories of direct teacher influence, Categories five, six, and seven, reveal a contrasting type of teacher behavior. Lecture, giving information, and expressing opinion are recorded in Category five, and Category six is used for the teacher's directions to pupils. In Category seven are placed both statements of criticism and those in which the teacher justified his authority. Such statements are usually designed to change pupil behavior.

Student talk is divided into only two categories--Category eight, which is student talk in response to the teacher, and Category nine, student talk initiated by the student.

In the remaining category are recorded periods of silence or confusion. Pauses, short periods of silence, and periods during which the observer cannot

determine who is talking are included in the category. Such a category is necessary because it allows the person who is doing the recording to account for every minute of the time spent in systematic observation.

A summary of the ten categories of Interaction Analysis with brief definitions follows:

CATEGORIES FOR INTERACTION ANALYSIS

TEACHER TALK	INDIRECT INFLUENCE	1.* ACCEPTS FEELING: accepts and clarifies the feeling tone of the students in a nonthreatening manner. Feelings may be positive or negative. Predicting or recalling feelings are included.
		2.* PRAISES OR ENCOURAGES: praises or encourages student action of behavior. Jokes that release tension, not at the expense of another individual, nodding head or saying "um hm?" or "go on" are included.
		3.* ACCEPTS OR USES IDEAS OF STUDENT: clarifying, building, or developing ideas suggested by a student. As teacher brings more of his own ideas into play, shift to category five.
		4.* ASK QUESTIONS: asking a question about content or procedure with the intent that a student answer.
	DIRECT INFLUENCE	5.* LECTURING: giving facts or opinions about content or procedure; expressing his own ideas, asking rhetorical questions.
		6.* GIVING DIRECTIONS: directions, commands, or orders to which a student is expected to comply.
		7.* CRITICIZING OR JUSTIFYING AUTHORITY: statements intended to change student behavior from nonacceptable to acceptable pattern; bawling someone out; stating why the teacher is doing what he is doing; extreme self-reference.
STUDENT TALK		8.* STUDENT TALK--RESPONSE: talk by students in response to teacher. Teacher initiates the contact or solicits student statement.
		9.* STUDENT TALK--INITIATION: talk by students which they initiate. If "calling on" student is only to indicate who may talk next, observer must decide whether student wanted to talk. If he did, use this category.
		10.* SILENCE OR CONFUSION: pauses, short periods of silence and periods of confusion in which communication cannot be understood by the observer.

*There is NO scale implied by these numbers. Each number is classificatory, it designates a particular kind of communication event. To write these numbers down during observation is to enumerate, not to judge a position on a scale.

The observer preserves the original sequence of classroom interaction by recording the category numbers in columns. The following example demonstrates an observer's classification of a short period of classroom interaction and then his summary of that data for later analysis.

A social studies lesson begins in a fourth grade. The observer starts to record.

Teacher: "Boys and girls, please open your social studies books to page 5."

Observer classifies this as a 6, followed by a 10, because of the period of silence and confusion during which the children find the right page.

Teacher: "Jimmy, we are all waiting for you. Will you please turn to page 5 in your book?"

Observer records a 7 and a 6.

Teacher: "I know now that some of you had difficulty with and were a little upset by this chapter yesterday, but I think that today we will find it more exciting and interesting."

Observer records two 1's, reacting to feeling.

Teacher: "Now, has anyone had a chance to think about what we discussed yesterday?"

Observer records a 4.

Student: "I thought about this, and it seems that the reason that we are in so much trouble in southeast Asia is that we haven't really had a chance to learn to understand the ways of the people who live there."

Observer records three 8's.

Teacher: "Good, John. That is a very interesting point which I think we should examine more carefully."

Observer classifies this as a 2.

Thus the following sequence of numbers have been recorded by the observer in this fashion:

10
6
10
7
6

(1
(1 4)
(8 8)
(8 2)
(10

Notice that in the listing above the numbers have been marked off in over-lapping pairs. The first pair is 10-6, the second 6-10, the third 10-7, etc. The numbers are summarized by placement in a 10 row by 10 column table called a matrix. A sample matrix for the interaction pattern just discussed is shown in Figure 1.

Sample Matrix

	1	2	3	4	5	6	7	8	9	10
1	1			1						
2										1
3										
4								1		
5										
6	1									1
7						1				
8		1						11		
9										
10						1	1			

Figure I

The cell in the matrix in which a pair is to be recorded is determined by using the first number in the pair to indicate the row, the second number for the column. Thus the pair 10-6 is shown by a tally in the cell formed by row 10 and column 6; the second pair, 6-10, in the cell formed by row 6 and column 10, etc.

Notice that each pair of numbers overlaps with the previous pair; therefore, each number, with the exception of the first and last, is used twice. For this reason a 10 is entered as both the first and the last number in the observation, 10 being a logical number for the beginning and ending of each session. Such a procedure permits the total of each column to equal the total of the corresponding row.

The tabulations in the matrix can be checked for accuracy by making certain that there is one less tally in the matrix than there were numbers entered in the observation record itself (N-1). In this case, because we began with 13 numbers, the total number of tallies in the matrix is 12.

The modification of Interaction Analysis presented in this paper retains the basic ten categories, but includes some ideas of other researchers in the field. Sub-headings are added to Flanders' categories so that more data might be collected in classrooms, and also so that student teachers being trained in the use of a category system may look at classroom verbal interaction more intensively, and may thus gain more insight into their own teaching behavior.

Proposed Modification of the Flanders System of Interaction Analysis

At Temple University, Interaction Analysis is used in the training of student teachers. Students learn the system so that they may analyze teaching and have a feedback tool for gaining information about their own teaching so that they may gain greater control over their verbal behavior with pupils. In the four years that Interaction Analysis has been used with student teachers at Temple, the work of Hughes (7), Taba (9), and Gallagher and Aschner (4), among others, has been introduced as well, and in this paper some aspects of these systems which have been found useful will be added to Interaction Analysis in an attempt to combine into one category system the items found particularly helpful in training student teachers. This category system follows:

MODIFIED CATEGORIES

TEACHER TALK	1.	Accepts Feeling
	2a.	Praises
	2b.	Praises Using Public Criteria
	2c.	Praises Using Private Criteria
	3.	Accepts Idea Through: a) Description b) Inference c) Generalization
	4.	Asks: a) Cognitive Memory Question b) Convergent Question c) Divergent Question d) Evaluative Question
	5.	Lectures
	6.	Gives Direction
	7a.	Criticizes
	7b.	Criticizes Using Public Criteria
	7c.	Criticizes Using Private Criteria
STUDENT TALK	8.	Pupil Response: a) Description b) Inference c) Generalization
	9.	Pupil Initiation: a) Description b) Inference c) Generalization
	10.	Silence
	11.	Confusion

The modification also retains the use of the matrix, so that a person using the 24 categories described in this paper would enter data into a 24 by 24 matrix instead of the 10 by 10 matrix used in the Flanders system.

Category 1, Accepts Feeling, Category 5, Lectures, and Category 6, Gives Direction, are left as they are in the Flanders system. Category 2, Praises or Encourages, is modified by using Marie Hughes' ideas about public and private

criteria. If a teacher praises by saying, "good," or "fine work," and uses no criteria, then Category 2a would be tallied. If a teacher gives the kind of reasons which Hughes describes as using public criteria, that is, reasons which are logical and explicit, then 2b would be tallied. Examples of 2b would be, "Your report was particularly helpful because you used those graphs to show us exactly how production changed income levels," or "Your quiet voices are helping the rest of us concentrate on our written work." If a teacher gives reasons for praise which involve his own likes and dislikes, 2c, or private criteria would be tallied. Examples of this would be, "I was proud of your behavior in the halls today," or, "A report like John's makes me very happy." These additions should help student teachers think about and use praise in ways which encourage pupils to grow and become more self-directing.

Taba's levels of thinking have suggested the modifications in Category 3, Accepts Ideas. Three sub-categories have added: describing, inferrring, and generalizing. Examples of these categories would be:

Student: "They built their houses out of snow."

Teacher: "So they used snow to provide shelter." (Acceptance through description)

Student: "They had to use snow."

Teacher: "You mean that if they had had wood or stone available they probably would have used that instead." (Acceptance through inference) "People in primitive cultures have to use the materials in their immediate environments for their homes." (Acceptance through generalization)

By dividing acceptane of ideas in this way, student teachers are helped to think about their pupils' levels of thinking, and also to be aware of whether or not their own responses to pupils will be most helpful if kept on the same level, or if moved to another level.

The categories of Gallagher and Aschner are used in the modifications of Flanders' Category 4, Asks Questions. Examples of cognitive memory, convergent,

divergent, and evaluative questions follow in the order in which they are listed: 4a) What is the largest city in New York state? 4b) What is there about the position of New York City which accounts for its importance? 4c) How might the lives of the people of New York City be different if the city were located in the torrid zone? 4d) Would you like to live in New York City? According to Gallagher and Aschner, cognitive memory questions ask for recall and require no additional thinking, convergent questions require some analysis of data, divergent questions call for imagination and a move in new directions, and evaluative questions ask for judgment. By dividing questions into these broad and narrow categories, student teachers are helped to formulate questions in a more varied way than they might otherwise do.

Category 7, Criticizes or Justifies Authority, has been modified in the same way that praise has been--by adding public and private criteria; and for the same reasons--so that pupils will be provided with reasons for criticism when this is appropriate. An example of criticism, 7a, would be, "wrong". 7b, criticism using puplic criteria, might be, "Your answer is wrong because you divided with a nine instead of a seven." An example of 7c, criticism using private criteria, would be, "I don't like your attitude."

The Flanders Categories 8 and 9 have been modified in the same way as Category 3, by the addition of the sub-headings, description, inference, and generalization. The reason for this change is to help student teachers to think about the levels of pupils' contributions, to help them move from one level to another, to back up if necessary, to be aware of what Taba calls "jumpers." (those pupils who may skip levels when others are not ready) , and so forth.

The Flanders Category 10, silence or confusion, has been divided into two categories so that students will be aware of which behavior occurs. Silence following a question, for example, is quite different from confusion following a question. It would seem helpful for student teachers to learn to allow silence

after truly thought provoking questions.

The modifications in Interaction Analysis suggested in this paper result in 24 categories rather than 10--however, there are only 11 main categories, with the others being sub-headings. Thus, the category system would not be difficult to learn, or to use. The system is particularly designed for use as a feedback tool--to analyze onés own teaching, to think about and formulate questions, to role-play behaviors in the college classroom, to observe teaching patterns and to diagnose teaching problems. Although it has not been systematically used in classroom observational research, it could be used for this purpose, and the results could be compared with data already collected using the original Flanders System of Interaction Analysis.

BIBLIOGRAPHY

1. Amidon, Edmund and Hunter, Elizabeth. Improving Teaching: Analyzing Verbal Interaction in the Classroom. New York: Holt, Rinehart and Winston, 1966.

2. Amidon, Edmund and Simon, Anita. Implications for Teacher Education of Interaction Analysis Research in Student Teaching. Paper presented AERA convention, Feb. 1965, Chicago.

3. Classroom Interaction Newsletter, Simon, Anita, (Ed.). Vol. 1, No. 1, Dec. 1965, Philadelphia: Temple University.

4. Gallagher, James and Aschner, Mary Jane. "A Preliminary Report: Analysis of Classroom Interaction," Merrill-Palmer Quarterly of Behavior and Development 9, July, 1963; 183-194.

5. Honigman, Fred. Testing a Three Dimensional System for Analyzing Teacher Influence, Unpublished Ed.D. Thesis, Temple University, 1966.

6. Hough, John and Amidon, Edmund. Behavioral Change in Pre-Service Teacher Preparation--An Experimental Study. (A monograph, College of Education, Temple University, Philadelphia, 1964).

7. Hughes, Marie and Associates. The Assessment of the Quality of Teaching: A Research Report. (U. S. Office of Education, Cooperative Research Project No. 353, The University of Utah, Salt Lake City, 1959).

8. Simon, Anita and Agazarian, Yvonne. Sequential Analysis of Verbal Interaction, Unpublished Paper, Temple University, Philadelphia, 1966.

9. Taba, Hilda and others. Thinking in Elementary School Children. (U. S. Dept. of Health Education, and Welfare, Office of Education, Cooperative Research Project No. 1574. San Francisco State College, San Francisco, 1964).